REMARKS

Reconsideration of the present application is respectfully requested.

Applicants would initially like to thank Examiners Choi and O'Shea for the courtesies extended to Kerry S. Culpepper, Esq., Reg. No. 45,672, during a telephonic interview on April 14, 2003, during which the merits of the Examiner's Office Action dated October 21, 2002 as well as proposed amendments to the claims were discussed.

Claim 5 has been amended to correct a cosmetic defect. However, this amendment has not narrowed the scope of claim 5 within the meaning defined in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. ___, (2002).

The drawings have been objected to under 37 C.F.R. 1.83(a). More particularly, it has been asserted in ¶ 2 of the Office Action that the drawings fail to show the vehicle information detection means, control angle calculation means, light axis control angle, light axis direction adjustment means, direction detection means and failure detection means. As more fully set forth below, Applicants respectfully disagree with this assertion.

The vehicle information detection means is represented by, for example, the vehicle height sensors 11F, 11R of FIG. 1. These height sensors 11F, 11R generate height signals HFS, HRS that are utilized, along with other signals, for calculating height values HF, HR. (See pg. 4, lines 12 – 19).

The control angle calculation means and the failure detection means are represented by, for example, the ECU 20 of FIG. 1. More specifically, as disclosed in the application on pg. 4, lines 24 – 27, the CPU 21 is a central processing unit for a variety of calculations and the ROM 22 is where the control program is stored. Further, on pg. 5, line 24- 25, it is stated that the

processing routine for the headlight axis control is in the CPU 21 of the ECU 20. In summary, the control angle calculation means and the failure detection means may be embodied by the ECU's CPU 21 executing one or more control programs stored in the ROM 22.

An exemplary light axis control angle is represented by, for example, the headlight axis LA of FIG. 2. More particularly, FIG. 2 shows the new headlight axis after it has been adjusted by the gear series 351L in accordance with the light axis control angle. Applicant would like to point out the light axis control angle is a variable parameter.

The light axis direction adjustment means and direction detection means are shown by, for example, the gear series 351L and the potentiometer 36L. More particularly, the gear series 351L is rotated by the DC motor 35L to adjust the headlight axis of the headlight. (See pg. 5, lines 13 – 17). The potentiometer 36L outputs a real time divided voltage into the ECU 20 as the positional signal PS. (See pg. 5, lines 21 – 23).

Therefore, because the drawings show the vehicle information detection means, control angle calculation means, light axis control angle, light axis direction adjustment means, direction detection means and failure detection means, it is respectfully requested that the objection to the drawings under 37 C.F.R. 1.83(a) be withdrawn.

Claim 1 has been rejected under 35 U.S.C. 112, second paragraph as being incomplete for omitting essential structural cooperative relationships of elements. More particularly, it has been asserted in ¶ 5 of the Office Action that claim 1 omits the essential structural relationships of the vehicle information detection means, a control angle calculation means, a light axis direction adjustment means, a direction detection means and a failure detection means. For the reasons discussed below, claim 1, as amended, properly recites the essential structural relationships of these elements.

Amended claim 1 now recites that the vehicle information detection means is for detecting information used for controlling a light axis direction of a headlight. The light axis direction is adjusted by the light axis direction adjustment means. The control angle calculation means calculates a light axis control angle that is utilized by the light axis direction adjustment means for moving the light axis direction. The direction detection means outputs a signal having a signal level correlated with the light axis direction of the headlight. The failure detection means detects a failure based upon the signal level outputted from the direction detection means and a predetermined value. Generally, the predetermined value may be, for example, a driving signal for the DC motor 36L that is calculated based upon a target output signal of the potentiometer 36L. (See pg. 9, lines 22 – 23 and pg. 10, lines 1- 3).

Therefore, because claim 1 now properly recites the essential structural relationships of the vehicle information detection means, a control angle calculation means, a light axis direction adjustment means, a direction detection means and a failure detection means, it is respectfully requested that the rejection of claim 1 under 35 U.S.C. 112, second paragraph be withdrawn.

Claims 1 – 5 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,305,823 to Toda et al. (Toda). For the reasons discussed below, these claims, as amended, are now in condition for allowance.

Amended claim 1 recites the novel embodiment disclosed on, for example, pgs. 4 – 6 in which a headlight axis direction control apparatus for a vehicle includes vehicle detection means, such as, for example, vehicle height sensors 11F, 11R for detecting vehicle information that is used for controlling a headlight axis direction. The CPU 21, operating in accordance with a control program stored in ROM 22, calculates a light axis control angle and accordingly drives the DC motor 35L to adjust the axis direction of the headlight 30L to have the light axis control

angle. Direction detection means such as, for example, the potentiometer 36L outputs a signal (real time divided voltage) PS that is correlated to the light axis direction of the headlight. Failure detection means (for example, the CPU 20 operating in accordance with the control program stored in the ROM 22) detects a failure of the DC motor 35L by using a predetermined value and the level of the signal (real time divided voltage) PS outputted by the potentiometer 36L. This failure is detected when the DC motor is driven but prior to the axis directions of the headlights being changed. More specifically, in comparison with conventional headlight axis control systems, the failure is detected before light axis control is begun.

Toda discloses an automatic leveling device for vehicle headlamps that includes actuators 17L, 17R for tilt adjusting parabolic reflectors 5 and failure detection sensors 20 for determining if the actuator 17 is in a failure state. A CPU 16 determines whether or not the motors 10 in the actuators 17 are in a failure state from the actuator failure detection sensors 20 and stops operation of the motors 10 if the failure state is determined. (See col. 3, lines 28 – 35). However, Toda fails to disclose that the CPU 16 determines whether or not the motors 10 are in the failure state before the headlamp is switched on. Rather, as shown in FIG. 2, Toda makes this determination subsequent to switching the headlamps on.

Therefore, because Toda fails to disclose determining whether or not the motors 10 are in the failure state before the headlamp is switched on, it is respectfully requested that the rejection of claim 1 as well as dependent claims 2 and 4 – 5 be withdrawn.

Regarding the rejection of claim 3, claim 3 has been canceled without prejudice and will not be discussed.

Claims 6 – 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Toda. For the reasons discussed below, these claims, as amended, are now in condition for allowance.

Claim 6 has been amended to more fully recite that the detecting of a failure in a headlight system is performed before the driving of the headlight begins and is based upon whether or not the detected actual headlight axis direction differs from the predetermined headlight axis direction.

As mentioned above, Toda fails to disclose determining whether or not the motors 10 are in the failure state before the headlamp is switched on.

It has been apparently asserted in ¶ 89 [*sic*: 9] of the Office Action that claim 6 merely recites the use of a particular structure. The Examiner has cited the case *In re Pfeiffer* as legal support for the conclusion of obviousness. Applicant respectfully traverses the Examiner's conclusion that *Pfeiffer* is applicable to claim 6.

In *In re Pfeiffer,* the Board of Patent Appeals and Interferences (Board) affirmed the rejection by the Primary Examiner for lack of invention over prior art. The Examiner in *Pfeiffer* had determined that the Applicant had in fact claimed "extensive and specific structural limitations..." in the method claims. The Board found no error in the rejection because the "recited structural limitations...amounted to the mere claiming of a use of a particular structure..." *See In re Pfeiffer*, 135 U.S.P.Q. 31, 32 – 33 (Bd. Pat. App. & Int. 1961).

However, Pfeiffer is not applicable to claim 6 of the present application because claim 6 does not recite extensive and specific structural limitations. Rather, claim 6 merely recites the headlights and the novel methodology utilized to control the headlights and to determine a failure

state thereof. Applicants remind the Examiner that 35 U.S.C. 100(b) implicitly permits recitation of structure in method claims. *See Id.* at 33.

Therefore, because the recited structural limitation of the headlight does not amount to the mere claiming of use of the headlight and because Toda fails to disclose detecting of a failure in a headlight system before the driving of the headlight begins, it is respectfully requested that the rejection of claim 6 as well as dependent claims 7 – 10 under 35 U.S.C. 103(a) be withdrawn.

Applicants would like to point out that detecting a failure of the DC motor 35L prior to operation of the headlamps as recited in amended claim 1 leads to improved and unexpected results and amounts to more than a mere design choice. A *prima facie* case of obviousness is rebutted by proof of unexpected or superior results. (See MPEP 2144.09 Aug. 2001). More specifically, as described on pg. 13, lines 10 – 23, coils of the DC motor 35L (35R) are prevented from burning if the DC motor 35L is in a failure state by stopping the current supply to the DC motor 35L (35R).

New claims 11 – 13 are presented for examination. These claims recite features that further distinguish the present invention from the art of record. Support for new claim 11 can be found on, for example, pg. 5, lines 4 – 5. Support for new claim 12 can be found on, for example, pg. 3 – 5. Support for new claim 13 can be found on, for example, pg. 4, lines 23 – 24.

A petition for a three-month extension of time along with authorization for charging the requisite petition fee to Deposit Account 50-1147 is being submitted concurrently with the present amendment. Although no additional fees are believed to be due, permission is given to also charge any unanticipated fees to Deposit Account 50-1147.

In view of the above amendments and remarks, the present application is now believed to be in condition for allowance. A prompt notice to that effect is respectfully requested.

Respectfully submitted,

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